

KEL3002A

The KEL3002A is GaAlAs infrared emitting diode that is designed for high power, low forward voltage. This device is optimized for speed and efficiency at emission wavelength 940nm and has a high radiant efficiency over a wide range of forward current.

Features

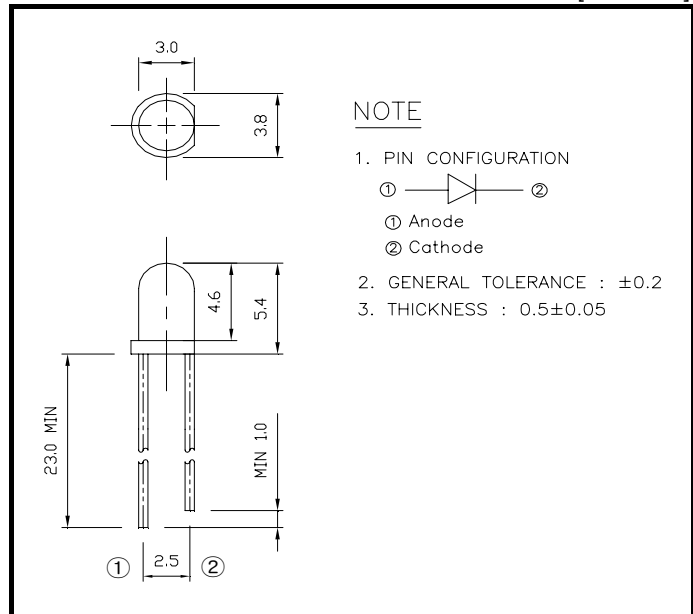
- 940nm wavelength
- Low forward voltage
- High power and high reliability
- Available for pulse operating

Applications

- IR Audio and Telephone
- IR Communication
- Optical switch
- Available for Wireless Digital Data Transmission

Dimensions

[Unit : mm]



Absolute Maximum Ratings

[$T_A = 25^\circ\text{C}$]

Parameter	Symbol	Rating	Unit
Power dissipation	PD	70	mW
Forward current	IF	50	mA
Pulse forward current *1	IFP	0.5	A
Reverse voltage	VR	5.0	V
Operating temp.	Topr.	-25 ~ +85	$^\circ\text{C}$
Storage temp.	Tstg.	-30 ~ +85	$^\circ\text{C}$
Soldering temp. *2	Tsol.	240	$^\circ\text{C}$

*1. Duty ratio=1/100, pulse width=0.1ms

*2. Lead Soldering Temperature (3mm from case for 5sec).

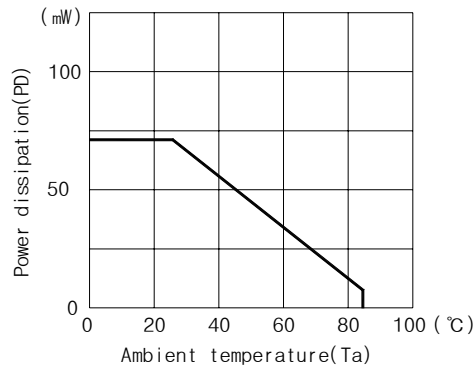
ELECTRO- OPTICAL CHARACTERISTICS

Description	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F = 50\text{mA}$	-	1.4	1.7	V
Reverse current	I_R	$V_R = 5\text{V}$	-	-	10	μA
Capacitance	C_J	$f = 1\text{MHz}, V = 0\text{V}$	-	20	-	pF
Radiant intensity	P_o	$I_F = 50\text{mA}$	18	20	-	mW/sr
Peak emission wavelength	λ_p	$I_F = 50\text{mA}$	-	940	-	nm
Spectral bandwidth 50%	$\Delta\lambda$	-	-	45	-	nm
Half angle	$e/2$	-	-	± 20	-	deg.

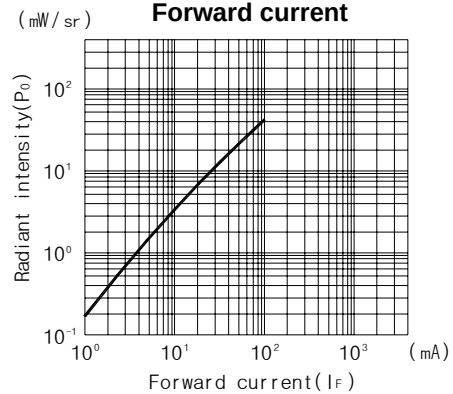
KEL3002A

DYNAMIC CHARACTERISTICS

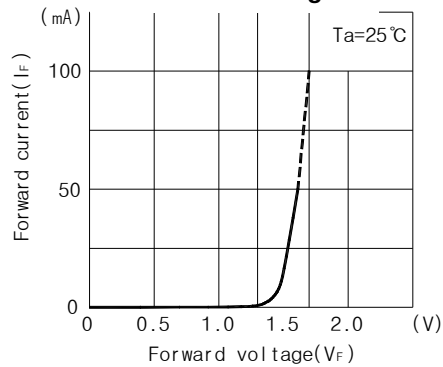
■ Power dissipation Vs.
Ambient temperature



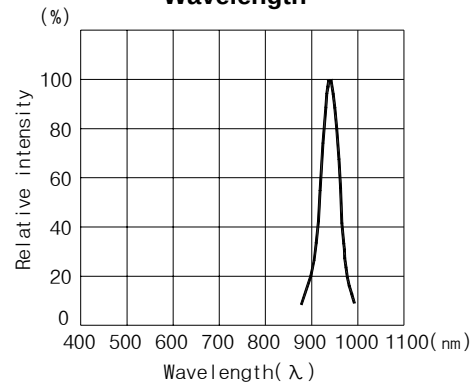
■ Relative intensity Vs.
Forward current



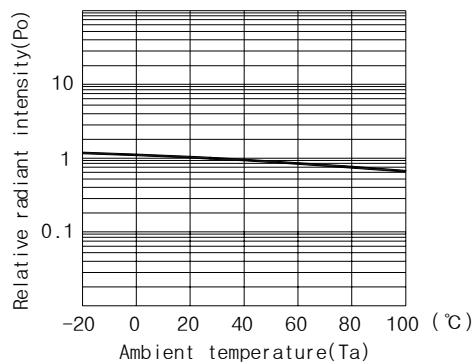
■ Forward current Vs.
Forward voltage



■ Relative intensity Vs.
Wavelength



■ Relative radiant intensity Vs.
Ambient temperature



■ Radiant Pattern

